

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7	cptcm	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:18
L2	29546	vibrat\$4 near2 (sensor acceler\$7)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 13:48
L3	1720922	(analog adj2 digital) digits\$5 "a/d"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:21
L4	3723	inphase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:21
L5	85626	quadrature	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:22
L6	1	2 same 3 same 4 same 5	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:23
L7	1	2 and (3 same 4 same 5)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:26
L8	2012246	phase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:26
L9	1016158	amplitude magnitude	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:27
L10	28892	8 same 9 same 3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 11:28
L11	59	10 same 2	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 12:36

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L12	59	10 same 2	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 12:36
L13	14	("4213346" "4380172" "4408294" "4426641" "4453407" "4488240" "4635210" "4751657" "4988979" "5258923" "5412583" "5412985" "5533400" "5635642").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/04 12:46
L14	1	("5089969").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/04 12:50
L15	11	("5412985").URPN.	USPAT	OR	ON	2007/04/04 12:50
L16	26	("3895343" "4352293" "4885724" "4894644" "5109700" "5216921" "5407265" "5412985" "5477730" "5511422" "5571966" "5579232" "5633811" "5686669" "5687735" "5808903" "5847658" "5852793" "5854994" "5943634" "5995910" "6199018" "6260004" "6275781" "6301572" "6321602").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/04 13:04
L17	0	("6868348").URPN.	USPAT	OR	ON	2007/04/04 13:04
L18	0	("6868348").URPN.	USPAT	OR	ON	2007/04/04 13:25
L19	26	("3895343" "4352293" "4885724" "4894644" "5109700" "5216921" "5407265" "5412985" "5477730" "5511422" "5571966" "5579232" "5633811" "5686669" "5687735" "5808903" "5847658" "5852793" "5854994" "5943634" "5995910" "6199018" "6260004" "6275781" "6301572" "6321602").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/04/04 13:25
L20	8	("6456945").URPN.	USPAT	OR	ON	2007/04/04 13:29
L21	0	("7168324").URPN.	USPAT	OR	ON	2007/04/04 13:36
L22	2	vibrat\$6 same 3 same 4 same 5	USPAT	OR	ON	2007/04/04 13:38
L23	9	vibrat\$6 same 3 same hilbert	USPAT	OR	ON	2007/04/04 13:38
L24	35251	vibrat\$4 near2 (sens\$4 acceler\$7)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 13:49
L25	25	4 and 24 and 5 and 3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 14:44

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L26	2	"5893054".pn. and phase	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:08
L27	2415	phase same 24	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:08
L28	184	27 same 3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:12
L29	17	28.clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:09
L30	845	27 and 3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:13
L31	713	30 and 9	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:13
L32	103590	sinusoid\$4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:13
L33	209001	31 nd 32	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:13
L34	216	31 and 32	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:14
L35	65	5 and 34	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/04/04 16:14

DOCUMENT-
IDENTIFIER:

US 20040034483 A1

TITLE: Method and apparatus for measuring rotor
unbalance

Summary of Invention Paragraph - BSTX (10) :

[0009] In one aspect, the system includes a vibration sensor for measuring the vibration of a rotor, a speed sensor for measuring the rotational speed and phase angle of the rotor, a filter coupled to both the speed sensor and vibration sensor, and a signal processor coupled to the filter and speed sensor. The filter, which can be a digital filter, extracts a signal from the vibration measurement having a frequency synchronous with the rotation of the rotor. The processor is programmed to subtract a background (or baseline) vibration signal from the synchronous vibration signal to produce a vibration difference signal. Each vibration signal exists in two separate parts, the vibration amplitude, and the vibration phase angle. These two separate parts are often combined for mathematical convenience as a "vector" (which in this context means a quantity with both magnitude and direction). The processor then measures and evaluates the vector representation of the vibration difference signal to determine if an anomaly, such as a crack, has developed.

PAT-NO: JP357017027A
DOCUMENT-IDENTIFIER: JP 57017027 A
TITLE: VIBRATION REDUCING DEVICE OF ELECTRIC MACHINERY

PUBN-DATE: January 28, 1982

INVENTOR-INFORMATION:

NAME	COUNTRY
HORI, YASURO	
KANAI, MINORU	
KIYONO, KAZUYUKI	
HAGIWARA, SHUYA	

ASSIGNEE-INFORMATION:

NAME	COUNTRY
HITACHI LTD	N/A

APPL-NO: JP55089979

APPL-DATE: July 3, 1980

INT-CL (IPC): G05D019/02 , F16F015/18 , H01F027/33

US-CL-CURRENT: 318/460 , 702/77 , 702/FOR.168

ABSTRACT:

PURPOSE: To reduce the noise caused by vibrations through an easy control and with a high accuracy, by detecting the vibrations of a transformer, a motor or the like to give a digital process to the detected vibration and producing the vibration reducing frequency signal with amplification and vibration given to said frequency signal.

CONSTITUTION: The vibrations caused from an electric machinery 1 like a transformer or the like are detected by a sensor 2A. The analog detection time signal detected by the sensor 2A receives an **A/D** conversion and is then converted into a digital detection frequency signal by a Fourier converter 5. A controller 6 obtains

both the amplitude and the phase quantity with every frequency and sends them to a Fourier adverse converter 7 in the form of the digital vibration reducing frequency signal. The converted digital vibration reducing time signal receives a D/A conversion 8 to energize an exciter 10 after an electric power amplification 9. The power supply frequency of the machinery 1 or the signal detected by a vibration sensor 2B is used for the input of a synchronous signal generator 12 that samples the converters 4 and 8.

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US-PAT-NO: 6904371
DOCUMENT- US 6904371 B2
IDENTIFIER:

****See image for Certificate of Correction****

TITLE: Method and apparatus for measuring rotor unbalance

Brief Summary Text - BSTX (10):

In one aspect, the system includes a vibration sensor for measuring the vibration of a rotor, a speed sensor for measuring the rotational speed and phase angle of the rotor, a filter coupled to both the speed sensor and vibration sensor, and a signal processor coupled to the filter and speed sensor. The filter, which can be a digital filter, extracts a signal from the vibration measurement having a frequency synchronous with the rotation of the rotor. The processor is programmed to subtract a background (or baseline) vibration signal from the synchronous vibration signal to produce a vibration difference signal. Each vibration signal exists in two separate parts, the vibration amplitude, and the vibration phase angle. These two separate parts are often combined for mathematical convenience as a "vector" (which in this context means a quantity with both magnitude and direction). The processor then measures and evaluates the vector representation of the vibration difference signal to determine if an anomaly, such as a crack, has developed.